AMERICAN VETERINARY REVIEW,

MAY, 1885.

EDITORIAL.

PROGRESS OF THE PAST—AND IN THE FUTURE.

The progress that veterinary science has made in the United States during the last twenty years is enormous. Veterinary schools have, little by little, been established in such a manner that, at first limited merely to the Eastern States—we might almost say to New York—they were gradually found in other parts of the country, and, as can be seen by the reports that we publish to-day, our confrere and friend, Prof. Lyford, has succeeded in establishing one as far west as Minnesota. There are now in the United States a fair number of veterinary colleges, where instruction in that specialty of medicine can be obtained.

As natural consequences of these schools, regular graduates were soon met in almost every large city in the Union, and veterinary societies were formed. At first sociable gatherings of a few, they soon became scientific organizations—State incorporated bodies, in which subjects of interest to the profession are discussed, including legislation relating to the protection of veterinary practice.

To crown the advancement thus made, and to fill a want much felt, means of correspondence were established between the colleges, the individual members of the profession, and the various

State officials and societies, and veterinary journals were issued; weeklies, monthlies and quarterlies have for the last ten years been published, some of which have had a successful career, while others have been obliged to stop for various reasons.

Who, twenty years ago, would have thought of the great change in the profession—in its elevation in public estimation, which, from the low grade of the vulgar and ignorant cow leech, has raised the veterinarians to the position of gentlemen of education, worthy of public respect, of State position, of General Governmental trust?

In going back to the start, it cannot be ignored that by the personal and private efforts of a few the first impulse was given; and if these great changes, which we have just considered, have been obtained and can be traced back to those private individuals, what would have been the results if assistance had been given by Governmental support, as it is in Europe?

We have had appropriations of all kinds, for many purposes, with some good results, but what has the veterinary profession gained thereby? A great deal of the money that has been spent would have been better employed had it been secured for the assistance of some of the institutions already mentioned, or better still, for the establishment of a national veterinary school, where the graduates of the various State institutions could have received a post graduate education, that limited means have not permitted these private undertakings to give.

Much has already been said and written about a national veterinary institute; but is the subject not worthy of attention, and would it not be wise for the members of the profession to try to obtain some action in that direction? Has not the time come when the different colleges in the Union could work together and establish, if not a post graduate school of veterinary medicine, at least a national board of examiners, who would render the examination equal for all candidates?

This is another step of progress to be made, and one which we had hoped would have been realized much earlier than those which have been made in the last quarter of a century.

THE MEDAL TO MR. H. BOULEY.

The veterinary profession of America was made acquainted, through the pages of the REVIEW, with the mode adopted by veterinarians in France to commemorate the event of the election of Mr. H. Bouley to the presidency of the highest scientific body in the world, the Academie des Sciences, of Paris.

It was proposed to have a large medal made and presented to the newly elected president as a token of friendship, of high esteem and great admiration, from his friends and colleagues and students. A call was made to veterinarians all over the world, through the veterinary journals, which received a ready response.

The committee having obtained the necessary funds, succeeded easily in their undertaking, and copies of the medal, of a smaller size, have been sent to those who desired to receive it.

We are pleased to be able to present our readers with a drawing of it. On one side the likeness of the president, with his name around it, on the other an allegory representing the process of vaccination, of which he has been so able an advocate, with a Latin motto: ARTE NOVA PASTOR PECORUM CONTAGIA VINCIT, GRATUM OPUS AGRICOLIS, and below the titles connecting him with the veterinary schools, the Legion d'Honneur and the Institute.

If one bears in mind that all these honors have been conferred

on a gentleman who claims no other title than that of veterinarian —who to veterinary science attributes all the honorable positions he has been called upon to fill, too modestly placing it in front of his great talents and ability—can there remain any doubt as to the value and importance of our calling, and to the truth and proper application of the motto so commonly used in relation to it, "*Second to None*"?

POLITICIANS BETTER THAN VETERINARIANS.

The value and services of educated veterinarians has made much progress in public estimation, and also in that of the State and the General Governments. It seems, however, that some city officials have not yet reached that point where, for the benefit of the general health of the people, or for the saving of the people's money, they would find it advantageous to employ, in preference to the educated veterinarian, the (in many instances) ignorant politician, ex-police officer, or retired butcher.

While the Health Department of the city of Brooklyn has its veterinary surgeons and its inspectors of meat, regular graduates, and the Fire Department of the same city employs an educated veterinarian to look after its live stock, the great metropolis of New York remains far behind her sister city, having no veterinarian in her long list of officers. A glance at the published extract of Dr. E. Hanshew, Jr's, report shows, however, that improvements are yet possible even in this well regulated public department.

ORIGINAL ARTICLES.

AMERICAN VETERINARY HOSPITAL.

Practical Department of the American Veterinary College.

TENTH ANNUAL REPORT TO THE BOARD OF TRUSTEES.

GENTLEMEN:

Once again it is my pleasant duty to present you with a report, which will, I hope, be satisfactory to the most sanguine, and which will impress the public with the value of the work done in the Hospital Department of the American Veterinary College. In my last report I stated that the number of our patients had exceeded those of previous years. To-day I can still make the same statement. The figures show that twenty-one thousand three hundred and one animals were treated inside of our walls during the past year. These figures compare advantageously with the clinical facilities of many of the older European schools, and surpasses the record of any other veterinary institution on this continent.

Are those figures the highest to which we can pretend to reach? I do not believe it. If you glance over the figures representing the work of 1883, 1884, 1885, you will observe that they are nearly the same. This is easily accounted for. They represent the total of patients that could be accommodated. Our clinics, our operations, our list of boarding patients have remained nearly the same. Why? On account of want of accommodations. Clinical material has often been discharged for want of accommodations; operations declined for want of facilities; boarding patients refused admission for want of room. These conditions apply to all animals—horses, dogs, etc.

Do not these facts show the imperative necessity of providing at the earliest time these greatly needed accommodations, this much wanted room.

The following is the report of cases during the entire ten years. In the year ending

March 10th,	1876,	there were	entered	in the clinical book	731	animals.
"	1877,	"	"	"	1,071	"
"	1878,	"	"	"	1,478	"
"	1879,	"	"	"	1,896	"
"	1880,	"	"	"	2,442	"
"	1881,	"	"	"	2,585	"
"	1882,	"	"	"	3,182	"
"	1883,	"	"	"	2,679	"
"	1884,	"	"	"	2,561	"
"	1885,	"	"	"	2,686	"
		Total			21,301	"

Table of Number of Patients Treated Monthly at the Hospital During Year Ending March 1, 1885.

YEAR AND MONTH.	Total Number of Animals.	Number of Horses.	Number of Dogs.	Number of Other Animals.	Number of Operations.	Number of Horses Examined for Soundness.	Total Number of Deaths.	Total Number of Animals Destroyed.	Animals affected with Contagious Diseases.	Number of Post Mortem Examinations.
1884, March.....	265	240	20	5	157	21	1	3	2	10
" April	331	281	45	5	174	45	...	4	4	6
" May	308	275	29	4	114	73	2	...	3	5
" June.....	242	214	23	5	82	52	1	...	4	4
" July	179	151	27	1	77	14	1	...	2	3
" August.....	205	181	21	3	107	13	4	...	2	6
" September.	213	182	29	2	89	23	5	1	3	6
" October....	245	203	34	5	81	55	2	1	5	9
" November.	206	172	30	4	72	44	...	2	4	2
" December.	179	147	29	3	70	24	3	1	5	9
1885, January....	173	142	26	7	75	22	1	...	1	6
" February...	140	106	32	2	50	16	...	3	5	3
Total.....	2,686	2,294	345	46	1,148	402	20	15	40	69

Monthly Classification by Organs treated of Patients in Hospital during the year ending March 1, 1885.

YEAR AND MONTH.	Locomotion.	Digestion.	Respiration.	Innervation.	Circulation.	Genito-Urinary	Special Senses.	Abnormal Growths.	Ex. Lo.	Clinics.	Clinical Operations.

1885, January....	140	106	32	2	50	16	...	3	5	3	
" February...											
Total.....	2,686	2,294	345	46	1,148	402	20	15	40	69	

Monthly Classification by Organs treated of Patients in Hospital during the year ending March 1, 1885.

YEAR AND MONTH.	Locomotion.	Digestion.	Respiration.	Innervation.	Circulation.	Genito-Urinary	Special Senses.	Abnormal Growths.	Ex. Lo.	Clinics.	Clinical Operations.
1884—March.....	109	31	17	6	13	6	44	18	21	46	27
April.....	142	27	25	9	13	6	48	16	45	40	18
May.....	104	32	22	10	10	11	36	17	73	36	11
June.....	104	25	14	5	10	3	15	14	52	36	17
July.....	79	27	16	6	5	4	22	6	14	43	12
August.....	87	29	10	12	7	5	25	17	13	62	32
September.....	89	39	15	8	6	5	8	20	23	41	18
October.....	87	25	20	11	10	5	23	19	55	42	9
November.....	78	15	12	9	8	10	18	12	44	35	15
December.....	54	28	12	19	8	4	15	15	24	44	19
1885—January.....	50	25	17	9	9	9	23	9	22	40	19
February.....	46	18	7	6	10	4	19	14	16	30	8
Total.....	1,009	324	177	120	109	72	296	177	402	495	205

Comparative Table of Patients Treated at the Hospital During the past Ten Years

YEARS.	Total Number of Animals.	Number of Horses.	Number of Dogs.	Other Animals.	Number of Operations.	Horses Examined for Soundness.	Total Number of Deaths.	Total Number of Animals Destroyed.	Animals Affected with Contagious Diseases.	Number of Post Mortem Examinations.
1875-'76.....	731	710	20	1	116	123	13	21	11	44
1876'-77.....	1,061	984	63	14	210	193	30	19	6	53
1877'-78.....	1,478	1,413	50	15	324	238	30	28	13	80
1878-'79.....	1,846	1,753	95	48	385	298	22	24	24	95
1879-'80.....	2,442	2,203	170	69	597	325	24	12	11	61
1880'-81.....	2,585	2,408	146	31	897	389	31	14	13	53
1881-'82.....	3,182	2,844	291	50	1,304	459	48	14	26	78
1882-'83.....	2,679	2,350	308	21	987	400	31	11	56	55
1883-'84.....	2,561	2,159	303	99	956	415	15	15	68	82
1884-'85.....	2,686	2,295	345	46	1,148	402	20	15	40	69

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CLASSIFICATION.

The number of patients suffering with diseases for which treatment was sought and rendered during the last ten years may be classified as follows:

Lesions of the Organs of Locomotion	1,009
" " " Digestion	324
" " " Respiration	177
" " " Innervation	120
" " " Circulation	109
" " Genital Apparatus	92
" " Special Senses	296
Cases of Abnormal Growths	177
Examined for Soundness	402

RESULTS.

The mortality of the whole number treated has remained this year about the same as in the preceding—viz., about *one per cent.*

The mortality may be further represented as follows:

Diseases of the Apparatus of Locomotion	5
" " " Digestion	9
" " " Respiration	3
" " " Innervation	7
" " " Circulation	4
" " Genito-Urinary Organs	4
" " Special Senses	—
Cases of Abnormal Growths	—

Post mortem examinations were held in all these cases, for purposes of instruction in pathological anatomy, besides those made on other animals brought to the hospital after death for that purpose.

The results of the treatment during the ten years of our active existence may be thus tabulated:

YEAR.	PATIENTS.	DIED.	DESTROYED.	RELIEVED.
1876	731	13	21	699
1877	1,061	30	19	1,012
1878	1,478	30	28	1,420
1879	1,896	22	24	1,480
1880	2,442	24	12	2,406
1881	2,585	31	14	2,540
1882	3,182	48	14	3,120
1883	2,679	31	11	2,637
1884	2,561	15	15	2,490
1885	2,686	20	15	2,617

OPERATIONS.

One thousand one hundred and forty-eight operations were performed during the year, covering the field of surgery and including operations upon the organs of locomotion, digestion, respiration, genital apparatus, besides those performed in cases of abnormal growths. Many of these operations have been performed under complete anæsthesia, so produced by the use of ether or chloroform, or in partial somnolence, as produced by the use of chloral hydrate.

OPERATIONS PERFORMED DURING THE TEN YEARS.

1876	116
1877	210
1878	314
1879	385
1880	596
1881	987
1882	1,304
1883	798
1884	956
1885	1,148

The following cases presented unusual interest, and reports of them, extracted from the Hospital Record, have been given to the profession through the columns of the AMERICAN VETERINARY REVIEW:

1. Embolism of the Iliac Arteries, with Complete Paraplegia—Death.
2. Large Adenomia of the Intermaxillary Space—Recovery.
3. Lacerated Wound of the Free Portion of the Tongue, followed by inability to partake of any kind of food—Destroyed.
4. Double Champignon of Enormous Size—No operation.
5. Constipation in the Horse of Twenty-eight Days' Duration—Death.
6. A Case of Dystochia in the Dog—Cæsarean Operation—Death.
7. Large Melanotic Tumor in a Bay Horse—Recovery.
8. Lymphomatous Growth of the Head, Neck and Inguinal Regions—Partial removal.
9. Large Inguinal Hernia in the Dog—Death.
10. Sarcomatous Tumor of the Intermaxillary Space—Recovery.
11. Luxation of the Patella of Several Months' Standing, Division of the Long Vastus Muscle—Recovery.
12. Amyloid Degeneration of the Liver, Softening of the Muscular Coat of the Intestines—Death.
13. Progressive Paraplegia, Necrosis of the Dorsal Vertebræ—Death.

EXAMINATIONS FOR SOUNDNESS.

This very important part of the practice of the veterinarian has again occupied a large space in our records, upwards of four hundred horses having been subjected to official and professional inspection pending negotiations for change of ownership.

1876	123
1877	193
1878	238
1879	298
1880	325
1881	389
1882	459
1883	400
1884	415
1885	402

BOARDING PATIENTS.

The same number of animals were admitted in the hospital. Owing to our stalls being constantly occupied, we have in many instances been obliged to refuse admission to patients, while often we had to discharge animals while under treatment to make room for more pressing cases.

BOARDING PATIENTS DURING THE TEN YEARS NUMBER AS FOLLOWS:

YEAR.	HORSES.	DOGS.
1876	244	...
1877	220	35
1878	442	16
1879	485	28
1880	530	48
1881	487	37
1882	504	52
1883	518	84
1884	524	63
1885	525	74

FREE PATIENTS.

We have registered this year 495 animals as having been brought to our free clinics. The number of operations which we performed upon this class of patients reached, however, a total of

205, the largest of our annual records. These clinics continue to be held during the whole year on Mondays and Saturdays at 2:30 p. m., and are intended to afford the poor, who cannot remunerate the services of a good veterinarian, an opportunity of obtaining relief for their suffering animals. We take this opportunity to thank our colleagues who are engaged in practice in the city for the assistance they have kindly rendered us in sending us many valuable and interesting subjects, which we were thus able to bring before our classes of students.

During the past ten years 3,723 patients have thus been treated free of charge, and upon them 887 operations were performed.

FREE CLINIC PATIENTS DURING THE TEN YEARS, WITH NUMBER OF OPERATIONS PERFORMED.

1876,	—— animals	—— operations.	1881,	442 animals,	91 operations.
1877,	239 "	no account kept.	1882,	462 "	100 "
1878,	286 "	80 operations.	1883,	377 "	130 "
1879,	462 "	28 "	1884,	475 "	162 "
1880,	495 "	91 "	1885,	495 "	205 "

In closing this report I am pleased to acknowledge, and offer my thanks for, the assistance afforded me by Assistant Veterinary Surgeon W. J. Coates, M.D., D.V.S., and the House Surgeons, F. Allen, D.V.S., and J. Ryder, D.V.S.

Respectfully submitted by

A. LIAUTARD, M.D., V.S.
Chief Veterinary Surgeon.

SHOULD EXPERIMENTS ON ANIMALS BE RESTRICTED OR ABOLISHED?*

BY ROBT. MEADE SMITH, M.D., Professor of Comparative Physiology, University of Pennsylvania.

Continued from page 10.

And now let us look at the benefits conferred on animals, and both directly and indirectly on the human race in this one instance, through experiments on animals. Brauell, the eminent professor at the veterinary school of Dorpat, Russia, was the first

*An introductory address to the course of lectures on Comparative Physiology. Reprint from the *Therapeutic Gazette.*

to describe the bacilli which have since been proved to be the active agents in the production of anthrax; and the laboratory experiments of Pollender, Delafond, Davaine, Chaveau, Toussaint, and others, but above all of Pasteur, who had already demonstrated the parasitic origin of the silk-worm disease, have perfected our knowledge of the action of the virus, and the means by which its energy may be so attenuated that, when inoculated into healthy animals, instead of destroying them, it only gives rise to, at most, a slight ephemeral disturbance and confers immunity from the disease. At first these results were received with incredulity, but in 1881 Pasteur gave a public demonstration at Melun of the truth of these statements. Fifty sheep and twelve cattle were placed at his disposal; half the number were then inoculated with the cultivated or attenuated virus, and fifteen days later all the animals were inoculated with the uncultivated or deadly virus. Forty-eight hours later every one of the unprotected animals was dead, while all of the animals which had received the cultivated virus were in perfect health. But this was not all. It had been claimed that the deadly virus was a laboratory product, and, perhaps, not the true essence of the disease, and it was proposed that the anthrax blood, whose deadly effects on man and animals were so well known, should be used as a test of protective inoculation. An official commission was therefore appointed at Chartres to set the matter at rest, and twenty sheep were allowed for the experiments. Similar results were obtained. Those inoculated with the attenuated virus were not in the least affected when they received what would otherwise have been a deadly quantity of anthrax blood, while of those not thus protected all died but one.

"There was no longer any doubt as to the value of protective inoculation, and there was the greatest anxiety to have the flocks in the anthrax-haunted districts protected as soon as possible. Up to October, 1881, 58,900 animals had been inoculated in the proportion of three to five, *i. e.*, 33,576 against 21,938, which were left unprotected to show the difference. Before inoculation the loss in all the flocks had been 2,986. During the inoculation and until the effects were complete, 260 died in the group of 33,576 which was being operated on; and during the same time

366 died in the non-inoculated group of 12,938. But when the inoculations were completed, in the first group the mortality fell to five and then ceased, while it continued at its usual rate in the non-protected group."

In Hungary, also, Pasteur's process of protective vaccination against anthrax was examined by a royal commission. Ten cattle and sixty sheep were allowed for the experiments; half were vaccinated with attenuated virus, brought from Pasteur's laboratory in Paris to Budapesth, without (except one case that died from clearly distinct cause) producing any visible disturbance of health. All the animals were then inoculated with anthrax spores. Of the protected animals only three died, and of these cases death in two instances was attributed to other causes; none were attacked with anthrax. But of the unprotected animals, out of twenty-five sheep twenty-three died within a week, with well-pronounced anthrax symptoms in twenty-two, the death in the other cases being due to parasitic disease of the liver. Of the cattle experiments, those unprotected by vaccination were all more or less affected by the anthrax inoculation, though in no case fatally, while the protected animals remained perfectly unaffected.

Similar results were also obtained in Kapuvar. Forty-four protected and fifty unprotected sheep were inoculated with virulent anthrax germs; of the former group three were attacked with anthrax, which was fatal in only one instance; of the fifty unprotected sheep, forty-eight died within four days, of anthrax.

Were these results the only points born of this method of experiment, its value could not be overestimated. But anthrax is only a single example of what has been accomplished. In many other cases nearly as valuable and decided results have been obtained, and in others, if the anti-vivisectionists do not have their way, we have every hope of soon acquiring as great power as we already possess in the case of anthrax.

Chicken-cholera is a disease as fatal to poultry as anthrax is to cattle, and it also has been found to be due to the presence of a *bacillus*, which is capable of cultivation, in which process it loses its virulence, and when inoculated in healthy poultry, confers immunity from the disease. For this discovery, also, we

are indebted to Pasteur. He found that when a minute particle of blood from chickens dying from cholera was placed in sterilized chicken broth, and kept at the temperature of about 30 deg. C., immense numbers of micrococci developed for two or three days, and then settled as an opaque deposit to the bottom of the culture fluid, and there remained without change, provided access from all external impurity was prevented. Thus treated, a drop of the culture fluid, after shaking, is as virulent as the original blood, and injected into chickens or rabbits, rapidly produces fatal cholera.

But if a series of cultures are made, allowing intervals of several weeks or even months to elapse between the periods when active development takes place and the commencement of the next cultivation, there is a gradually decreasing energy in the virulence of the fluids, so that a point is finally reached when the injection of a drop of this attenuated virus into the muscles of a chicken produces either a transitory local inflammation, which never proves fatal and soon passes off, or else no visible effect; while complete immunity to cholera, lasting for a year or more, is acquired.

It was further proved that this reduction in the energy of the choleraic virus was due to the action of the oxygen of the atmosphere; for when the cultures are carried on in hermetically sealed tubes, no decrease in virulence takes place, no matter what the interval between the different series of cultivations may be.

By this means chickens may be vaccinated against cholera with even more positive results than is the case in human smallpox.

Contagious pleuro-pneumonia in cattle is a disease with which we in America are unfortunately but too familiar; and yet in 1850 the question as to its contagiousness was still undecided. At the suggestion of Dumas, a commission was then appointed to investigate the subject, and the result of these experiments was to prove that the disease was communicable, not only by cohabitation in 50 per cent. of the exposed cases, and of these 70 per cent. proved fatal, but that it was also transmissable without contact, through the atmosphere. The experiments of this commission further showed that when once affected with this disease,

the animals which recovered had acquired immunity to subsequent attacks.

Experiments as to the preventive power of inoculation were also made by the commission, which, although not carried far enough to be conclusive, showed the direction in which other experiments should be prosecuted; and, profiting by their experience, Dr. Willems, of Hasselt, Belgium, found that in fifty-four cases inoculation at the root of the tail with fluid taken from the lungs of animals dying of this disease, conferred complete immunity in thirty-eight cases, though the operation proved fatal in six cases. Similar results were obtained by Dutch and Belgian commissions.

(*To be continued.*)

CONTAGIOUS PLEURO-PNEUMONIA.

Thesis presented by W. ZUILL, D.V.S., before the University of Pennsylvania, Medical Department.

(*Continued from page* 13.)

October 4th.—Wishing to make further investigations of contagious pleuro-pneumonia, I to-day visited West Chester, Pa., for that purpose, in the company of Mr. Thomas J. Edge, Secretary of the State Board of Agriculture, and Dr. Bridge, the Veterinarian of the Board; here we met Dr. Salmon, of Washington, and Prof. Huidekoper, of Philadelphia, on errands similar to my own.

The first farm visited by us was owned by Wm. Eaches; here three animals which had been separated from the rest of the herd were found infected with contagious pleuro-pneumonia. These animals were slaughtered, and autopsia made.

Before taking up in detail the symptoms of the individual cases, perhaps it would be well to give a general description of the most marked and prominent diagonistic symptoms of the disease.

When an animal is first noticed to be unwell, and attention called to the fact, the premonitory symptoms, as a rule, have passed by, as an examination will show that extensive structural

changes have taken place in the lung, proving that the disease has been gradually increasing for some time before its presence in the system was made manifest.

"In examining a suspected herd of animals, all showing a temperature above 102° should be carefully watched. If the heat rises above this, there can be little doubt that disease is at work. When the disease is established, the temperature may rise to 105°, 106°, and rarely to 107°. In 134 cases recorded, eight reached this temperature."— *Williams.*

"The obvious symptoms are slight rigors, the hair standing the wrong way, loss of appetite, diminished secretion of milk, buckling over of the hind fetlocks, cough, apparently full belly, constipation, scanty and high-colored urine, pulse sometimes large and soft, at others accelerated and feeble in character, and, again, small and wiry, tenderness on pressure to the intercostal spaces and back. Should recovery not take place, signs of general disturbance gradually — sometimes rapidly—increase, cough is more persistent, mucous membranes of the nose injected, respiratory movements are increased in frequency, abdominal and shallow, elbows turned out, nose extended, back arched, hind limbs drawn under the body, the breathing becomes painful, accompanied by a moan or grunt on expiration, and nostrils dilated. A purulent and yellowish discharge sometimes from the eyes and nose; the extremities, horns and ears vary in temperature, the surface of the body hard and dry, hidebound; constipation, often succeeded at an early stage by diarrhœa."— *Williams.*

To return to the symptomatology of this disease, as seen by me in the individual cases, in different parts of this State, and in the State of New York. I find that the first animal examined at Mr. Eaches' farm had been noticed to be unwell for about ten days, at the present time showing a temperature of 103 3-5°, labored and shallow respirations—about 50 per minute. I was unable to get the pulse at all satisfactory; there was loss of appetite, urination being suspended, yet the belly had the appearance of being distended with food, resembling that condition known as hoven: a term applied to cattle when distended with gas from eating too much green food. The back very much arched, the hair rough and shaggy, the countenance expressive of great anx-

iety, indisposition to move, occasional cough, pressure on the back and intercostal spaces causing considerable pain, the hind feet drawn up to within a few inches of the fore ones in order to make them carry as much weight as possible, and in this way relieve pressure on the chest walls; the nose and mouth hot and dry, the feces hard and dry and in small quantity. No special note could be made of the urine at this stage of the examination; mucous membrane of the eyes pale and livid, and of the nose congested.

Percussion of chest walls on left side gave exaggerated or tympanitic resonance in its entirety, the respiratory murmur much increased, loud and harsh, giving the impression of disease. In fact this mistake is often made; it is one of the errors of diagnosis, and must be guarded against.

Percussion on the right side gave dullness over the whole extent of the lung, and caused considerable pain; on auscultation no sound was audible in any portion of the organ.

After completing my examination the animal was slaughtered; the tissues covering the chest wall on the right side, including the fore limb, were next removed, and the thoracic cavity opened. The first thing to attract attention was the large quantity of fluid contained therein, yellowish in color, and floating in it were lumps and shreds of friable fibrous material, breaking down easily under the finger. I judged the quantity of this fluid to be about eight pints. When tested, was found to contain albumen; it coagulated into a firm clot on exposure to the air, but would again liquify when the temperature was raised to 100°, or about that of the body.

On removing the right lung from the body, it was found to be consolidated and hepatized throughout its entire structure; the surface or pleura of the organ was covered by a fibrous or croupous exudate, in many places half an inch thick, which could be easily removed, leaving the pleura as if covered by granulation. When thus removed, blebs or bulla were observed just under the pleura, varying from a pea to an egg in size. These bulla were filled with a material which in every respect resembled that filling the chest cavity. There was no way of determining the exact weight of this organ; it was roughly guessed at from

25 up to 50 pounds. It was immensely swollen to about double its normal size, forming adhesions with the costal pleura, with the diaphragm and pericardium; these adhesions, however, were not very firm, but could be easily separated.

The costal pleura was in about the same condition as the visual, separating easily from the underlying tissue, which presented a sodden, edimatous appearance.

The left pleural cavity and its contents were healthy; heart also normal.

Changes in the abdominal organs very slight; the most marked was the small quantity of fecal matter in the bowels; this was dry, hard and in small masses; there was evident lack of secretion of the mucous membrane.

The bladder contained a small quantity of dark urine; the other organs were healthy.

Case No. 2.

This animal was killed at the owner's request, she having had the disease some four or five years prior. At the time of the autopsy there was no evidence of disease.

The autopsy was quite negative, except collapse of that portion of the lung previously occupied by the disease, with bands of organized lymph connecting this portion of the organ with the costal pleura; the other organs of the body were normal.

(*To be continued.*)

COLICS IN HORSES.

By Mr. Laguerriere.*

(*Continued from page* 16.)

The study of colic in its various forms is one of the very foremost importance to the veterinarian. The frequency of its occurence, the intense severity of the symptoms, the pecuniary loss so often involved, together with the difficulty of prevention by prophylactic means, justify the statement, and fully explain the

*Translated from *La Presse Veterinaire.*

prominence of its claims to the consideration of the practitioner. In the army especially, now that morvo-farcinous affections have, for the most part disappeared, it is to colics, principally to those of indigestion, with or without overloaded intestines, that the greatest amount of mortality is due.

NOSOLOGICAL CLASSIFICATION OF THE VARIOUS DISEASES PRODUCING COLICS.

First Group.—Diseases due to irritation of the nervous intestinal system. *Division*—Nervous colics. *Subdivision*—Gastralgia; enteralgia; gastro-enteralgia.

Second Group.—Affections due to functional changes of the digestive organs. *Division*, (*a*) flatulent, or gaseous colic; (*b*) colic of simple indigestion; (*c*) colic of indigestion with overloading; (*d*) colic of indigestion complicated with nervous accidents. *Subdivisions.*—(*a*) Meteorization, tympanitis; (*b* and *c*) gastric; stomachic; gastro-stomachic; (*d*) vertiginous indigestion, or stomach staggers.

Third Group.—Affections due to excess of vascularity, of a congestive nature—may be either essential or symptomatic. *Division*—Red colic; inflammatory colic. *Subdivision*—Intestinal congestion; enterorrhagial.

Fourth Group.—Affections due to presence of living organized bodies; foreign bodies, or acting as such. *Division*—Vermiform affections; calculi; poisoning.

Fifth Group.—Affections due to changes of form or situation, or solutions of continuity. *Division*—Various displacements; various hernias; volvulus; invagination; tearing or various wounds.

Sixth Group.—Affections due to complications of colics already present—they constitute morbid epiphenomena of the most serious character and are too commonly fatal. *Division*—Congestion; enterrorhagia; inflammation; gangrene; volvulus; invagination; hernia; various displacements.

Seventh Group.—Affections of abdominal organs other than the intestinal canal. *Division*—Peritoneal; hepatic: nephritic; cystic; ovarian and uterine colics.

No classification can ever be perfect, and we present this one

for what it is worth. When an animal is evidently affected with colic, it will in our view, be an easy matter to refer the attack to one of the designated groups, and the disease thus classified, its true nature ought easily to be positively determined.

Chapter II.

GENERAL SYMPTOMATOLOGY OF COLICS—THEIR DIFFERENTIAL DIAGNOSIS AND ETIOLOGY.

1. *General Symptoms of Colics.*—Generally the onset of colic is sudden, if not instantaneous; at times, however, the attack begins by the patient manifesting a degree of dullness while he gazes at his flanks, and stands back at the end of the rope or chain of his halter. But whether appearing suddenly, or developing slowly, the patient soon becomes more or less restless; he paws and stamps on the ground; pulls his bedding back; twists his body; flexes his fore-legs; brings all his feet together; tries to lie down, yet does so with hesitation, and soon rises again suddenly, or rolls himself, while stretching all his four legs; or again, remains down, either on his back, or resting flatly on his side. In some forms of colics, the animal, when lying down, expresses his suffering by moaning or grunting loudly. In all cases, the countenance is anxious and contracted, the nostrils dilated, the eyes widely opened and fixed, with an expression indicating the pain which he suffers; all his movements and struggles are more or less violent, according to the degree of pain which he endures. In some animals these symptoms are of long continuance and persistency, and there is no intermission in the restless and wearisome motion; the twisting of the body; the stamping; the lying down and rising up, and other indications of the pain which has attacked the vitals of the tortured victim, and for which he is vainly seeking relief in his contortions and struggles. But occasionally, the disease is marked with distinct intermissions, which are manifested by true alternations and accesses of violence, more or less characteristic. During the remissions, the patient remains quiet in his stall, or stretched on his bedding, at times still grunting uneasily, as an expression of the suffering he is enduring. Every individual, however, has his own peculiar form of attack, and his special mode of exhibiting his distress,

and the general manifestation of the disease will, therefore, be modified and diversified according to the individuality of patients.

The respiration is usually accelerated in colic, and remains so in various degrees until the end, fatal or favorable, of the attack. But on the other hand, notwithstanding what has been written on the subject, the circulation at the onset of the attack seems to be reduced. Arterial action is generally depressed, and the pulse hard, small and often irregular, and below the normal standard.

During this period the visible mucous membrane, especially that of the conjunctiva, is pale. The sensitive nervous system of the abdominal viscera participates in the functional troubles of those organs, and all the other great functions of the economy are also modified by reflex action. The heart, by a phenomenon that we cannot very well explain, remains indifferent to the existing morbid condition, and even diminishes its action, and as a consequence the circulation is weaker, the molecular changes are less marked, the lowering of the general temperature, and especially the cooling of the extremities, follows as a consequence of the existing state of affairs. At a later period the heart again accelerates its action, and its contractions become strong and repeating; but the pulse generally remains weak, small and thready, and towards the final struggle for life becomes imperceptible.

There is often profuse perspiration, occurring from the very beginning of the disease; while in other cases this is a manifestation indicating a favorable crisis. In cases of fatal termination, this always shows itself towards the end; it is then cold, almost icy, covering the entire body, and dropping profusely on the ground.

Certain forms of colic recover, either by treatment or by instantaneous natural reaction. This is shown by a more or less energetic expulsion of wind, fœces or urine. Preceding, or immediately upon these expulsions, the animal shakes himself up, and changes instantly from the peculiar and intense expression of the pain he has endured.

Occasionally, and even with the best care and treatment, the symptoms continue to increase in severity, the struggling motions repeat themselves more and more rapidly, and the pain becomes

aggravated and more marked at each renewal of the struggle. The animal loses more and more its instinct of conservation, and recklessly throws himself down by his own weight, regardless of pain or possible injury. The respiration increases more and more; the heart beats strongly, the arteries still remaining depressed; the pulse, first thready, becomes less and less perceptible; the mucous membranes become injected, and at times cyanotic, and an abundant and cold perspiration covers the body. Soon a deceptive appearance of improvement presents itself—generally an infallible sign of a termination close at hand—the patient seems to become more calm; he stands back at the end of his halter; his legs are wide apart; his features are still characterized by an expression of the violent agony he has endured; his respiration becomes more accelerated; he is pulseless. And then the coolness of the body is more and more marked; he lies down, generally now in a careful manner, stretches his legs, and with a few slight convulsive efforts, expires. The battle is over; the victim has succumbed, exhausted by the violent pain which has tortured him, and which has been followed by successive alterations in all the functions of the organism.

Let us add to this description that even in slightly severe colics all the functions of the gastro-intestinal canal and of the bladder are stopped. There is paralysis of the muscular coat of these organs, and as a consequence the passage of the food and of the gases from the stomach and intestines is arrested, while micturation is also suspended. It is a remarkable clinical fact that during stomachal or intestinal colics there is a cessation in the function of the bladder. The patient often stretches himself to micturate, but fails. In a differential diagnostical point of view, as well as in the consideration of questions of treatment, we shall have to re-consider subsequently this paralytical condition in the generality of colics.

To resume: Violent pains, whether continuous or intermittent, giving rise to struggles more or less violent; accelerated respiration; pulse at first normal or even slow, then accelerated and thready, or even absent, according to the results; frequent borborygmus, sometimes absent; constipation, or only expulsion of

gases and of a few droppings; strong efforts of micturition, generally abortive; sudden disappearance of the colic, when the attack ends favorably; increase in the character of the symptoms, followed by deceptive improvement, a sure precursor of death, in fatal cases.

[*To be continued.*]

REPORTS OF CASES.

DISEASED LIVER IN PREGNANT COWS.

By Thomas B. Rogers.

I have recently had a series of cases occurring in milch cattle, which seem to me to point to a hitherto unnoticed affection of the parturient state in cattle.

Case I.—An old cow, multipara, near term; history received from owner was as follows: "This cow has been down for ten days; refuses food and water; has been and now is constipated, in spite of the administration of large doses of salines." Examination showed dry muzzle, slight icteric tint of visible membrane, the presence of a small amount of vile smelling fæces in the rectum. The case was complicated with retroversion of the bladder, due probably to laxity of the vagina and its partial eversion through straining. Reposition of the bladder allowed it to be emptied, but as the cow was evidently moribund and there was a show to save the calf, she was knocked on the head and a living calf removed from her. Post mortem examination showed an enormous fatty liver, portions of the gland looking as though the true tissue was commencing to break down. The other organs were apparently unaffected, but anæmic.

Case II.—A cow, multipara, had calved about two months previously, and had been running down ever since; was down, though able to rise; muzzle hot and dry, obstinate constipation was present, and the respiration was painful, not difficult; membranes somewhat yellowed. Post mortem showed fatty liver, the organ weighing about thirty pounds; the capsule of Glisson opaque and somewhat easily separated; the kidneys congested,

with endocardites of the right heart; other viscera apparently healthy, though anæmic.

Case III.—A young cow, five months advanced in her second pregnancy, had been unwell for some weeks; had temperature 105°, obstinate constipation, rectal examination revealing a little bad smelling fecal matter, with considerable blood and mucus; anorexia. Ordered cinchona with opium and camphor, to be followed by oleaginous purgatives. Shortly afterwards I heard that the cow was much better, but a few days ago the owner again called on me, stating that the cow was down and unable to rise. I requested him to telephone me when she died, and a day or two afterwards he did so. Post mortem showed the liver very small, weighing about six pounds, greenish brown in color, very soft and flabby; gall bladder full of bile, apparently healthy in character. The true liver structure was apparently lost. The kidneys very small, of the same color and consistence as the liver, the cortical portion having lost its consistence, though some traces of the proper structure of the medullary portion still remained. The other organs were healthy, though remarkably anæmic, the cow looking as though she had been bled to death. The intra abdominal fat was almost entirely removed, and the intestines were empty, spotted with patches of black pigment, and as white as though they had been washed and prepared for anatomical demonstration.

These cases show the necessity for the study of comparative medicine. Had I been unacquainted with human pathology I do not think that I should have recognized the condition with which I had to deal. These cases were undoubtedly illustrations progressive in degree of the condition of the liver found always in pregnant women. There is always a physiological parenchymatous degeneration of the liver in pregnancy, and a physiological anæmia. In these cases all physiological bounds had been passed, and the last-cited case showed acute yellow atrophy, icterus gravis. About the treatment of the condition when found, or its avoidance, I have at present nothing to say, though I hope to continue the investigation should more cases occur in my practice. Meantime this condition, with its gravity, cannot be overlooked in the diagnosis of similar cases to the ones I have described.

A CASE OF BRONCHOCELE.

By James Albright, V.S.

History.—Roan mare about 14 years old brought to me for treatment. On examination of animal, found her to be affected very badly with enlargement of the glands; the right gland just about a quarter as badly affected as the left. The gland on the left side of the trachea very badly affected, so as to interfere with the animal's respiration when she was made to trot or go faster than a walk. Gave her the usual remedies, both internal and external, but the medicine did not seem to have any effect on the diseased gland whatever. After following the treatment a proper length of time to remove or check the disease (which it failed to do, the gland steadily growing and getting so large as to interfere with the animal's respiration at all times, whether at work or not), the only alternative for me to remove this was to extirpate the gland. We advised the owner of all the dangers attending the same, and with his consent to let me operate on the animal, it was prepared for operation. At the time of taking the gland out the animal was very docile. We did not use much restraint. We let the animal stand up and inhale chloroform until its effects were noticed on the system. Then an incision was made over the middle of the growth the entire length of the gland, about five inches. The incision was made through the muscles, the cellular tissue being separated with thumb and index finger, so as not to cut the veins and arteries. After the cellular tissue was divided, the gland was exposed to the eye. It was then firmly grasped with the hand and taken out. The gland was about five inches long by three wide. The edges of the wound were brought together with sutures, and the wound was dressed three times a day with the following solution: Carbolic acid, ℥ i; tr. aloes, ℥ ii; sp. camphor, ℥ ss; aqua, ℈ ii. The animal did exceedingly well; she never missed a meal during the treatment. The scar that is left cannot be noticed, except by feeling. The formula used is my own, as far as I know of. I tested it this winter on three cases that were very badly hurt, and they did well in the coldest weather we had.

OBSTETRICAL CASES.

By A. W. Hoover, V.S.

Give me a little space in The Review to report two singular obstetrical cases that came under my observation. I will briefly state them while they are fresh in my mind. Sunday, the 5th, at noon, I was called to see a mare that had been in labor all the forenoon; was attended to by a non-professional, with no good results whatever. Examination revealed a breech presentation with a monstrous head lying near the pelvic orifice. The forehead was soft and yielding to pressure, as we find in large tumors. Around this was a rim; I can compare it only to an old-fashioned corn-meal sieve. In thickness it was one-fourth of an inch by two inches wide; in diameter, ten and one-half inches. The knife was carried in and the head laid open, letting out the contents; the rim was divided and taken out and the head, or remainder of it, straightened, the hind legs got into proper position, and delivery safe and easy.

Case No. 2 occurred to-day. Just got home and very tired. Drove ten miles since one o'clock. This case also had been crammed, and given up, and the midwife gone home to rest and probably come to a wise conclusion that quackery is neither profitable nor honorable. Found all the legs rigidly flexed, as also the neck, which lay in the side. This was truly a critical case, and occupied an hour and a half before delivery was accomplished. The limbs, as well as the head, had to be amputated.

IMPACTION OF COLON FOR TWENTY-THREE DAYS.

By W. H. Gribble, D.V.S.

The case I now write a description of did not come under my own personal observation, but that of a well-known veterinary surgeon of this city, from whom I obtained the facts as I give them to you.

Many of us would call this a large story, but its truth is vouched for, not only by the attending surgeon and his assistant, but by any member of the Indianapolis Fire Department stationed at Engine House No. 1. I saw the animal two or three

times, from curiosity, and many others did the same, as the case was much talked of.

The animal is a large, fat gray horse of the Fire Department, and, as far as known, was never sick before. February 20, the animal was taken with a slight colic, as was supposed, but pain relieved only while under influence of narcotics.

February 21.—On being visited this morning, it was seen no feces had passed, as rectal examination was made, and true trouble diagnosed. Aloe, ʒ i, podophyl, grs. xv, was given. Opii, ʒ i, administered at evening. The animal shows no acute pain.

February 22.—No operation. Olei. lini. ordered every six hours. Opii., ʒ i, a. m. and p. m.

February 23.—No action. Another pill given and oil continued. F. e. nux. vom., ʒ xxx, and f. e. bella., ʒ xv, were given alternately every two hours. These latter continued every day.

February 24.—Oil continued, together with rectal injections of warm water several times a day. This latter continued to the end.

February 25.—Still no action. Another pill given; oil continued.

February 26.—No action. Oil stopped; another pill given.

February 27.—Severe pains. Gave opii., ʒ i. Four balls having been given, and urine smelling strongly of aloes, and looking like oil, concluded to use injection alone.

Frebruary 28. No action. Assistant, unknown to surgeon, gave magnesii. sulph., lb. ss.

March 1, 2, 3, 4.—Still no action. Digitals used in place of belladonna. Injections used.

March 5.—Concluded to try physics again. Pill given; injections continued.

March 6.—Olei. lini., ʘ i, a.m. and p.m. Injections.

March 7.—Another pill, with injections.

March 9.—Same as on March 7. Three dung balls were hand-raked by assistant. Three alternate days, pills given so stopped.

March 10, 11, 12, 13.—Still no results. Constant injections.

March 14.—Having stopped four days, commenced physics again. Gave aloe, ℥ ss, podophyl, grs. x, a.m. and p.m., with injections.

March 15 a.m.—No action. In considerable pain, Gave pill same as yesterday. P. M.—Has had considerable pain all the afternoon, and toward evening passed small quantity of soft feces.

March 16 a.m.—Enormous quantity of feces passed, looking like cow dung.

March 20.—Animal eating well, bowels operating regular.

Here were twenty-three days passed without one single operation of bowels, and during this time the animal had partaken of no solid food, simply the water that was given him had a quantity of bran and salt stirred in it, and of this he partook of but very little; yet he did not seem to lose much flesh. At no time did he show the acute pain of spasmodic colic—simply constantly uneasy, excepting after physics, when pain was more severe; neither did he become tympanitic to any extent.

Let us also notice amount of drugs: aloes, ℥ viii, podophyllin, ʒ ii 1-8, olei. lini. cong., ii x, besides nux. vom., which was given constantly, and others. If any veterinary surgeon has record of case anywhere near equalling this, please let us know; then we can the more easily believe this.

EXTRACTS FROM ENGLISH VETERINARY JOURNALS.

CASES TREATED WITH PHYSOSTIGMIÆ.

By J. Nettelton, M.R.C.V.S.

These consist of the reports of five cases of colics of various nature treated by that medicine.

Case No. 1 is a black gelding, suffering with impaction of the bowels. He had been in pain for twenty-four hours, and had received at intervals, but without effect, ʒ vi of aloes, two pints of linseed oil and ℥ vi of nitrous ether. When first seen ʒ i of physostigmiæ was cautiously administered by injections. For the first twenty minutes no change was observed, but afterwards the

effect of the medicine began to be manifested, viz: a movement of gases plainly heard in the bowels, a slight perspiration, and an increase in the pulse. These were observed for an hour, when the animal settled back into its former state, apparently neither better nor worse. An hour later he was given a draught of extract of belladona, nux vomica and water, and was left alone. The next day the bowels had acted, but no purgation had set in.

Case No. 2.—This was a mare, which, though she had received a colic mixture, was growing worse, and betrayed symptoms which seemed to render her recovery doubtful. She was treated with ʒii of physostigmiœ by injection. An hour afterwards she was said to have been relieved, so far as the bowels were concerned, but that she had pains incessantly until she died three hours afterwards.

Case No. 3 was a brown hunting mare suffering with impaction of the stomach. She received ℥ii of nitrous ether, ʒi of tinct. aconite, ☉i of oleum lini. Four hours later, not having improved, she was given nitrous ether, ext. belladona and water, repeated three or four times at intervals; also linseed oil. Eighteen hours from the begining of the attack, ʒiii of physostigmiœ were injected. She suffered great pain for the first hour, but passed fæces, and was much relieved. Still no purgation set in.

Case No. 4 was a bay mare suffering with spasmodic colic from inactivity of the bowels. At the outset ʒii of the drug were administered, and in fifteen minutes the effects manifested themselves. In thirty-three minutes the movement of gases was heard; in forty-five minutes much pain and more fæces; in sixty-four minutes still more fecal discharge, with less pain—all followed by rapid recovery.

Case No. 5 was a cart gelding suffering with flatulent colic and inactivity of the bowels. Aloes, linseed oil, ol. terebeinliniœ and nit. ether were given. Two hours later the symptoms being more severe, another similar draught, minus the oil and aloes, was administered. Three hours later, ʒiii of physostigmiœ were injected. Three hours afterwards the animal was free from pain, and had passed some fluid fæces. Ten hours afterwards the bowels were costive; in five hours afterwards more purgation set in, which lasted twelve hours.— *Vet. Journal.*

SCAPULO-HUMERAL DISLOCATION IN THE HORSE.

By J. K. Pilkington, M.R.C.V.S.

A bay mare was driven for a trial by her owner and a friend. On their return the friend, against the owner's will, tried her under the saddle. After galloping some distance at a furious pace, she dashed on a narrow pathway between a wall and a lamp-post, striking her right shoulder against the latter and throwing both heavily to the ground. When called, Mr. Pilkington found the animal down, and she was raised with great difficulty, and found scarcely able to stand. On examination, the shoulder was found much swollen and bruised and slightly deformed, the animal being unable to carry any weight upon it. Partial fracture of the scapula and dislocation of the joint was diagnosticated. Though he was advised to have her destroyed, the owner desired to give her a chance, and she was placed under treatment. This consisted in hot water fomentations, with a strong solution of arnica, and a small cathartic dose. After seven or eight days the leg was placed in a proper position. The swelling was reduced, but the patient was scarcely able to move. A seton was then introduced from midway in front of the scapula, down under the chest, in front of the shoulder joint; then a blister was applied, which was repeated several times. After a few days the patient suffered from a tetanic attack, which was attributed to the effects of the wounds and the seton. The seton was then removed, and solution of belladonna applied. The animal got over that trouble in a few days, and after eight or ten weeks was turned out to grass. After three months she was taken home, and though still lame was put to slow work, which she does pretty well, with the exception of an occasional trip, being unable to extend or govern the toe in a proper manner.—*Ibid.*

PARALYSIS IN EWES, CAUSED BY EATING "SCROPHULARIA AQUATICA" (GREATER WATER, TIGER-WORT, WATER BETONY.)

By T. Runciman, M.R.C.V.S.

On the 22d of January last the author was called to attend some ewes which were suffering from eating too freely of marigolds. He found six lamb ewes, five of which were unable to

stand; if lifted up, they immediately tumbled down if not balanced against the wall. In fact, they were perfectly helpless. The sixth reeled and staggered, but was not so helpless. There was complete loss of appetite, constipation and inactivity of the kidneys. The marigolds were evidently not at fault.

On inquiry it was found that they had been brought home, five or six miles off, two days before, and put in a field through which runs a large ditch, which had been lately cleaned out and all the herbage and refuse thrown out on the bank. On examination it was noticed that wherever any of this plant was about among the ditch cleanings the leaves were all cropped close off. There was no doubt that this was the cause of the illness amongst the ewes. It had not been observed before that this plant produced illness among stock. Perhaps in its green state they instinctively shun it; this was in a partially dried state.

The treatment consisted of purgatives, followed by stimulants and nux vomica, and all the animals recovered. One had partial paralysis of a hind leg for two or three days after the others recovered; but another aperient seemed to have a good effect.—*Ibid.*

EXTRACT

FROM THE REPORT OF THE FIRE DEPARTMENT OF THE CITY OF BROOKLYN.

For the first time since the organization of this department, the care of its horses is in the hands of a regularly graduated veterinary surgeon. In the selection of Elisha Hanshew, Jr., D.V.S., a graduate of the American Veterinary College, to fill this position, it was particularly fortunate.

Since his appointment on May 1, a small pharmacy has been fitted up in the veterinary hospital and provided with the necessary drugs and instruments, so that the department is put to no extra expense for the treatment of sick or disabled horses.

The general condition of the animals is good. There has been a gradual weeding out of the unserviceable horses of the department, but there still remains some that, through long service, have become unfit for duty, and others that are too small for the

work required of them. There are now eighty-seven horses on hand, eighty-one of which perform active service, six being held in reserve. The reserve horses are in poor condition, being of necessity the worst animals in the department.

During the past year twenty-five horses were purchased, nineteen were sold (netting $1,656.55), being unfit for the service required of them, two were killed by order of the Society for the Prevention of Cruelty to Animals, and two died of lung fever.

An innovation has been made on the method of purchasing horses heretofore employed, which has thus far yielded satisfactory results. A trial of thirty days is demanded before purchasing, and no bill is certified for payment until the veterinary surgeon has given a professional certificate as to the age, size, color, health and general fitness of the horse to be purchased, for the work of the department, which certificate is attached to the bill as a voucher when it is forwarded from these headquarters.

COLLEGE EXAMINATIONS.

NORTHWESTERN VETERINARY COLLEGE.

The closing exercises of this college, and distribution of prizes and diplomas, took place in the lecture-room, 313 Second avenue, south. The examining board, students and professors were in attendance.

The following gentlemen being selected by the Board of Trustees, constituted the examining board: Messrs. D. S. Brown, V.S.. Genoa, Ill.; J. F. Ryan, V.S., Chicago, Ill.; M. McEachran, M.D., V.S., Winnipeg, Manitoba; George Sermon, M.R.C.V.S., Minneapolis.

Those of the final class who passed their examinations and complied with the requirements of the college (having attended three winter sessions of six months each, and one summer session of three months) were recommended by the Board of Trustees and granted their diplomas after passing the board of examiners.

List of final students—J. J. Bradley, M.D., Minneapolis; R. C. Mason, Mount Carroll, Ill.; J. F. Lee, M.D., Minneapolis.

Freshmen students—Leo Breisacher, Detroit, Mich.; O. C.

Burnham, Independence, Iowa; R. A. Van Nest, Minneapolis.

Diplomas and prizes were granted as follows: Finals—J. J. Bradley, M.D., gold medal for best general examination; R. C. Mason, $50 in gold for practical anatomy, surgery and general proficiency. Freshmen—Leo Breisacher, opthalmoscope for best general examination in his class.

The degree granted is Doctor of Veterinary Medicine and Surgery—D.V.M.S.

The president, C. C. Lyford, M.D., V.S., on presenting the diplomas and prizes, gave the history of the college as follows: The college was established in October, 1881, having in attendance Messrs. J. F. Lee and L. Gardner as students. The following year a matriculating examination was established and two more students were admitted, Messrs. J. J. Bradley and R. C. Mason. The third year many applications were made, but all failed to matriculate. The fourth year the students admitted were Messrs. Leo Beisacher, O. C. Burnham, R. A. Van Nest. These diplomas are the first granted in the United States requiring three years' session, and the only ones on the continent in which a summer session in addition is compulsory.

The gentlemen who have this day received the degree of the college, though small in numbers, cannot but maintain a high standing in after life, and be an honor to the profession, judging from the evidence they have given as thorough students and of high moral character.

Dr. McEachran remarked on the unusual proficiency shown by the students, and the high standing required. Having known the principal, Dr. Lyford, both as a student and professor in the Montreal Veterinary College, he considered him fully capable of occupying the position he now holds, and especially adapted to imparting knowledge to the students. Mr. Ryan reiterated Dr. McEachran's statement, and also knew the president as a classmate and hard-working student. The meeting then adjourned until 7:30 that evening.

At 7:30 the meeting was called to order, C. C. Lyford in the chair, to consider the formation of a veterinary medical association, and named Mr. Price as secretary pro tem. Mr. Sermon proposed to form a veterinary medical association to be known as

the "Northwestern Veterinary Medical Association," which was seconded by Dr. Bradley, and carried unanimously. The following officers were elected for the ensuing year: C. C. Lyford, President; George Sermon, Vice-President; Richard Price, Secretary and Treasurer; and the following gentlemen, with the officers, were elected members of the Council for a similar term: Messrs. Brown, McEachran, Ryan, Bradley, Mason and Pomeroy.

The resident members of the association were elected to draw up a set of by-laws for the association.

The meeting adjourned subject to the call of the president.—*Minneapolis Tribune.*

MONTREAL VETERINARY COLLEGE.

The final oral examinations by the board selected by the Council of Agriculture were held at the college. The board was constituted as follows: Messrs. Williamson Bryden, V.S., Boston; F. S. Billings, V.S., Roxbury, Mass.; A. McCormick, V.S., Ormstown; A. W. Harris, V.S., Ottawa; J. A. Couture, V.S., Quebec; Charles Levesque, V.S., Berthier en haut.

The following gentlemen having fulfilled all requirements of the college, attended three full sessions, and passed the examinations in botany, physics, histology, chemistry, physiology, materia medica, anatomy, general pathology, theory and practice of veterinary medicine and surgery, being considered by the board fully competent to be admitted to practice as veterinary surgeons, were granted the diploma of the college, viz.: E. W. Hoare, Charles G. Lamb, W. F. Scott, John F. Magor, A. A. Keys, C. S. Garland, W. P. Mayo, J. Turcot, A. Rouif, O. Fortin and R. Lapointe.

The closing exercises took place in the college lecture room. Mr. Lesage, deputy commissioner of agriculture, was in the chair, and the following gentlemen were present:—U. S. Consul-General Starnes, Mr. B. G. Coglin, Dr. Beaudry, Mr. S. N. Blackwood, Dr. Billings, Dr. Bryden, Dr. McEachran and many other prominent gentlemen. Mr. Lesage presented the diplomas and prizes, which were awarded as follows:—

Prizes in the English Classes.—For the highest aggregate

number of marks in all subjects, prize a medal, the gift of the Council of Agriculture, won by E. Wallis Hoare.

General Pathology—1st prize won by E. W. Hoare; 2d prize won by C. G. Lamb.

Anatomy—1st prize won by C. G. Lamb; 2d prize won by E. W. Hoare.

Best oral examination, special prize, won by E. W. Hoare.

Materia Medica—1st prize won by Th. Wroughton; 2d prize won by Chas. C. Dyer.

JUNIORS.—*General Pathology*—1st prize won by C. C. Dyer; 2d prize won by Th. Wroughton.

Anatomy—1st prize won by C. C. Dyer; 2d prize won by Th. Wroughton.

Botany—Prize. A. Rowat. First year, special prize in anatomy, won by F. Miller.

FRENCH CLASSES.—Best examination in all subjects, medal, the gift of the Council of Agriculture, won by J. Turcot; 2d prize won by A. Rouif.

General Pathology—Prize won by B. Lapointe.

Anatomy—Won by A. Roulf.

Materia Medica—Won by O. Fortin.

JUNIORS.—Best general examinations, won by L. Lorrain.

Special prize, practical anatomy, won by L. Lorrain.

ONTARIO VETERINARY COLLEGE.

The closing exercises and presentation of prizes in connection with this college took place Friday, March 27th, at Toronto, in the lecture-room of the college. Dr. A. Smith, principal of the college, presided. Among the gentlemen present were the following: The Lieutenant Governor, Col. Gzowski, Prof. Goldwin Smith, A. Blue, Deputy Minister of Agriculture; Henry Wade, Secretary, and Mr. Moore, President Agriculture and Art Association; Dr. Thorburn, Capt. Geddes, Dr. C. J. Alloway, Montreal.

In opening the proceedings, Dr. Smith said the college was instituted in 1864, and in 1866 three gentlemn graduated. Since that time there had been a regular increase in the number of graduates. The past session had been the most successful since

the college was opened. They had students from all parts of the United States and the Dominion of Canada. Those gentlemen who had graduated in former years had been successful in their practice, and had commanded the respect and esteem of the communities wherever they were located.

GRADUATING CLASS.

The names of the students who form the graduating class were read by Dr. Duncan, as follows: John Jas. D. Banting, Cookstown, Ont.; E. R. Barnett, Smith Road, Ohio.; Wm. F. Berry, Marion, Ohio; Felty A. Bolser, Newcastle, Ind.; Charles Burger, Hornby, Ont.; Tait S. Butler, Stirling, Ont.; Jas. E. Catlin, Shakespeare, Ont.; Harry E. Carpenter, San Francisco, Cal.; Charles Chrisman, Sharon Centre, Ohio: Eli Chrisman, Sharon Centre, Ohio; Matthew C. Crawforth, Whitby, Ont.; H. E. Delavergne, Kirkland, Ill.; Perry K. Dreibelbis, Lenhartsville, Pa.; Thos. G. Duff, Cookstown, Ont.; John E. Embury, Ingersoll, Ont.; Geo. H. Farnsworth, Chester, Vt.; O. D. Franks, Doylestown, Ohio; A. E. Gable, Meadville, Pa.; P. J. Gallagher, Allentown, Pa.; J. A. Gourlie, Summer Side, P. E. I.; R. B. Grant, Dumblane, Ont.; W. D. Gross, Rutztown, Pa.; F. G. Hall, Southampton, England; Reuben R. Hammond, Villa Nova, Ont.; W. H. Harbaugh, Cumberland, Md.; David W. Hess, Tenton, Ont.; Wilson Huff, Napanee, Ont.; A. L. Hunter, Hector, N. Y.; Jos. W. Ireland, Laskay, Ont.; Wm. J. Johnson, Summerville, Ont.; Wm. J. Johnson, Croton, Ont.; Thos. E. Jones, Granville, Ont.; Wm. Kenny, Lindsay, Ont.; John Lawson, Almonte, Ont.; Jas. A. Lee, Belleville, Ohio; John B. Lindsay, Hockley, Ont.; Angus McDonald, Metcalfe, Ont.; Geo. McGillivray, Whitby, Ont.; Duncan E. McLean, Pilot Mound, Manitoba; Frank D. McMahon, Chicago, Ill.; John A. McTaggart, Milton, Ont.; Archibald G. McVean, Woodbridge, Ont.; F. Matthews, Northampton, England; Joseph N. Medill, Huston, Ont.; Richard J. Michener, Waynesville, Ohio; Geo. D. Miller, Rix Mills, Ohio; Joshua Miller, Mooresville, Ont.; John D. Milne, Claremont, Ont.; Thos. Alex. Milne, Claremont, Ont.; Wm. C. Mitchell, Tilsonburg, Ont.; A. H. Moody, Grand Rapids, Mich.; Geo. C. Moody, Leslie, Mich.; W. W. Munger, Galesburg, Mich.; C. E. Munn, Lowell, Mass.; Jos. T. Natress, Woodbridge, Ont.; W. D.

Paxton, Fredericksburgh, Ohio.; Harry B. Platt, St. Louis, Mo.; Chas. H. Pierce, Grand Rapids, Mich.; Samuel E. Queen, Mechanicstown, Ohio; R. J. Quin, Edmonton, Ont.; Thos. W. Scott, Duncreif, Ont.; Wm. R. Shannon, Rosemont, Ont.; W. S. Shimer, Jr., Shimersville, Pa.; Geo. Standish, Esquesing, Ont.; William Stevens, St. Mary's, Ont.; Walter S. Tomlinson, North Henderson, Ill.; Geo. Waddle, Port Dover, Ont; Alias S. Walmer, Harrisburgh, Va.; Lewellyn D. Williams, Pontypridd, S. Wales; Wm. J. Wilson, London, Ont.; Wm. Wilson, Ballymony, Antrim County, Ireland.

PRIMARY EXAMINATIONS.

William Appletee Agnew, Ireland; F. F. Hoffman, Brookville, Pa.; John R. Sitterly, Scranton, Pa.; J. B. Whyte, Port Hope, Ont.

PRIZE LIST, SENIORS.

Pathology.—Silver medal, W. H. Harbaugh; second prize, T. S. Butler; third, Charles H. Pierce and J. A. Lee, equal. Honors, F. A. Bolser, C. B. Burger, H. Carpenter, P. K. Dreibelbis, J. E. Embury, G. H. Farnsworth, A. E. Gable, P. J. Gallagher, W. D. Gross, F. G. Hall, R. Hammond, D. W. Hess, A. L. Hunter, J. Ireland, Geo. Gillivray, D. E. McLean, J. Medill, G. D. Miller, Joshua Miller, H. Platt, George Standish, W. Shannon, W. Stevens, W. H. Tomlinson, W. J. Wilson.

Anatomy.—Silver medal, T. S. Butler; second prize, Harbaugh; third, Medill. Honors, Agnew, Bolser, Callin, Carpenter, Dreibelbis, Embury, Farnsworth, Hunter, Hammond, Hess, Ireland, Jones, Lee, Joshua Miller, Munn, G. C. Moody, W. Mitchell, D. E. McLean, Pierce, Platt, Paxton, Scott, Shimer, Standish, Wm J. Wilson.

Entozoa.—First prize, R. Grant and J. Ireland, equal. Honors, Hall, Harbaugh, Joshua Miller, D. E. McLean, Matthews, Medill.

Microscopy.—First prize, Harbaugh. Honors, Gallagher, Ireland, McLean, Paxton, Pierce, Scott.

Physiology.—First prize, T. S. Butler; second, J. Ireland; third, Harbaugh. Honors, Agnew, Bolser, Callin, Duff, Dreibelbis, Farnsworth, D. Hess, Hunter, Lee, Matthews, Munn, McLean, Miller, Medill, Scott, Standish, Shimer, W. J. Wilson.

Chemistry.—First prize, McLean; second, Harbaugh. Honors, Agnew, Joshua Miller, Medill, Munn, Gallagher.

Materia Medica.—First prize, Buttler and McLean; second, Harbaugh. Honors, Agnew, Ireland and Pierce.

For the Best General Examination.—Gold medal, by Ontario Veterinary College, awarded to T. S. Butler, Sterling, Ont. Honors, G. C. Berger, F. A. Bolser, H. E. Carpenter, G. H. Farnsworth, T. E. Jones, W. H. Harbaugh, J. W. Ireland, C. H. Pierce, William J. Wilson.

JUNIORS.

Pathology.—First, George W. Dickey; second, E. H. Bradley; third, C. L. Smith and George Alexander, equal. Honors, G. H. Allen, Fred. Anderson, M. O. Anderson, H. Bowes, G. S. Cavan, W. Daniels, W. H. Everest, H. Howard, J. F. Jones, W. Joyce, M. Kannon, D. M. Keller, A. King, W. Kirk, T. A. Macauley, T. C. McCasey, J. M. McFarlane, Jr., W. D. McClure, James M. Ramsay, J. J. Shoemaker, John Scott, E. B. Smith, J. Spencer, E. H. Stanley, R. P. Steddom, R. W. Story, T. Williams, J. Williams.

Anatomy.—First prize, silver medal, G. W. Dickey; second. F. E. Anderson; third, J. F. Jones and T. A. Macauley, equal. Honors, Alexander, M. O. Anderson, Bradley, Carnrite, Cavan, Daniels, Everest, Keller, A. King, McFarlane, McQueen, Mack, Manhard, Shoemaker, Stoddem, John Scott, Wallace.

Physiology.—First prize, J. P. McClure; second, M. McFarlane, Jr.; third, F. E. Anderson. Honors, Alexander, Bradley, Dickey, Hall, J. F. Jones, Mack, R. A. McAllister, Shoemaker, Spencer and T. Williams.

Chemistry.—First, W. P. McClure. Honors, Hall, Jones and Steers.

CORRESPONDENCE.

A LEGAL QUESTION.

Editor American Veterinary Review:

Would you kindly say if it is legal for signatures to be attached to diplomas other than those of the examining board? The reason I ask the question is, that during a conversation I had

a day or so ago with Wm. D. Carmody, M.R.C.V.S., he informed me that he had been asked to sign the diplomas of the students graduating from the New York Veterinary College. I asked him if he knew them. He replied he did not, nor did he know where the college was. Although he had been informed it was only a matter of form, he had declined, as he considered it a strange and improper proceeding.

W. H. PENDRY, D.V.S.,
Sec. Alumni Association, A. V. C.

BROOKLYN, March 26, 1885.

[The action of Dr. Carmody was proper. No diplomas ought to be signed except by members of the Governing Faculty.—ED.]

VETERINARIAN WANTED.

Editor American Veterinary Review :

I would like the name of a bright young graduate of the American Veterinary College, who is looking for a good location to practice.

In this place a competent man could do well. No place for poor timber, but a number one man is wanted. I write you by request of some of the largest ore hunters. Please answer, and oblige your obedient servant,

F. J. MACKE.

LEADVILLE, Colo., April 14, 1885.

SOCIETY MEETINGS.

NEW YORK STATE VETERINARY SOCIETY.

The regular monthly meeting of this society was held on Tuesday, April 14, at the American Veterinary College; Vice-President, Dr. Dixon, in the chair.

Members present were: Drs. Coates, Ray, Liautard, Brotherton, Cuff, C. C. Cattenach, W. F. Jackson, Johnson, Dixon, Mustol, Robertson, and Pendry.

Minutes of last regular and special meetings were read and adopted.

On motion, the regular order of business was suspended, to receive report of Board of Censors. On application for membership, they reported in favor of Theo. Birdsall, D.V.S.; Hara Taka Yokura, D.V.S.; Wm. Dimond, D.V.S.; M. Weise, D.V.S., and Geo. S. Bulford, V.S., of New York; Geo. F. Bowers, D.V.S., Brooklyn, and John Lindsay, D.V.S., Huntington, L. I. The application of Wm. Herbert Lowe, D.V.S., of Paterson, N. J., was laid over for proof that he practiced in the State of New York.

The Chairman of the Board of Censors reported that the question of final action in the matter of amalgamation had been referred to them. They had found that the motion made and carried at the last meeting had not been complied with, and recommended that both the spirit and the letter of that motion be carried out before the amalgamation was consummated.

Dr. R. W. Finlay being present, received permission from the Chair to make a statement regarding the report on amalgamation, and in doing so explained how it was that the papers which he had stated were filed, had not been. He had left it to another party, who promised to personally do so, and presuming they had kept their promise, he was led to make the statement he had. If it was still the wish of the Society that the papers should be filed, he wonld see that it was done.

On motion, both reports of the Board of Censors were received.

On motion, the secretary was instructed to cast a ballot of the whole on those gentlemen whose application for membership had been reported favorably. The secretary reported ballot cast in favor of those gentlemen, when they were declared duly elected.

A letter of application for membership was received from H. J. McMartin, V.S. (Montreal), of Utica, and referred to Board of Censors.

It was moved and seconded that the reading of papers be laid over till the next meeting.

Dr. Johnson objected, but the chair ruled the motion carried, and also that the meeting was adjourned.

W. H. Pendry, D.V.S., *Secretary.*

REVIEWS AND NOTICES.

FOURTH BIENNIAL REPORT OF THE STATE BOARD OF AGRICULTURE, KANSAS.

This official volume of over 700 pages, kindly sent by W. Sims, Secretary of the Board, contains numerous interesting facts connected with the agriculture of Kansas. The report of State Veterinarian Dr. A. A. Holcombe, is found in the pages of the book, and has already been alluded to in former numbers of the Review.

There will be issued by the New England Publishing Co., Sandy Hook, Conn., during this month, a book entitled "Berlin as a Medical Centre," by Horatio R. Bigelow, M.D., of Washington, D. C. This book will be a complete and accurate medical guide to Berlin, giving instructions in reference to board, clinics, lectures, expenses, etc., and all information that will be necessary for the medical student abroad. The price will be $2.00.

NEWS AND SUNDRIES.

THE RELATIONS OF MICROBES TO LIFE.—Pasteur read a paper by Duclaux before the Academy of Sciences, which begins thus: "The destruction of the organic matter of the soil by microbes, and the production of a new vegetation on the soil, are two phenomena which always accompany one another. Is there any necessary connection between them? * * * Can the plant develop in the absence of microscopic beings?" After the recital of some interesting experiments on plant life, Pasteur suggests to Duclaux an experiment on the *role* which microbes play in animal life, viz: That a hen's egg, from the surface of which all germs have been removed, is to be hatched in an eterilized space, fed with eterilized food, and supplied with eterilized air. Pasteur believes that the result will be that the chick will not live, and, in general, that life is impossible without the co-operation of microbes.—*Science.*

VIVISECTION IN GERMANY.—The following is a translation of the text of the regulations respecting vivisection issued by the German government. 1st—Experiments on living animals must only be performed in serious investigations, or for purposes of instruction. 2d—In public lectures such experiments must not be performed, unless they are necessary, for the full elucidation of the subject. 3d—The preparations, as a rule, must be made before the lectures begin, and not in the presence of the audience. 4th—The experiments must only be performed by qualified professors, or by their assistants on their responsibility. 5th—Experiments which will be equally satisfactory if performed on the lower species of animals must not be performed on the higher species. 6th—In all cases where the experiment can be performed without inconvenience under anæsthetics, anæsthetics must be administered.—*Science.*

PREVENTIVE VACCINATION IN INDIA.—Pasteur's system of vaccination for anthrax has been tried with triumphant success by the Indian government, acting on the advice of Mr. J. Mills, the inspector of cattle-disease for Madras. According to the official papers, ponies, donkeys, cows, bullocks, buffaloes, sheep and guinea-pigs have all been protected by vaccination from the con-

sequences of inoculation with virus which proved fatal to unvaccinated animals. A vaccinated pony and a buffalo were sent to a village where there was an epidemic of anthrax; and though they were herded with the diseased cattle, and grazed on the same pastures, they escaped the disease. In Burmah the elephants have been vaccinated with equal success. At first the "vaccine" was imported from France; but the uncertainty of obtaining it pure and efficacious from any one but Pasteur himself has induced the Indian government to fit up a laboratory for the manufacture and dispensing of the fluid in Bengal; and, if that is successful, other laboratories will be founded in other centres. Mr. J. H. B. Hallen was sent, some time ago, to study in Pasteur's laboratory; and the report recommends that all veterinary surgeons should go through such a course of instruction.—*Science.*

Treatment of Parotid Fistula by the Injection of Fat or Oil.—Dr. Molliere, of Lyons, France, has resorted to an ingenious device, employed by experimental physiologists, in order to cure an external fistulous opening, associated with one lobe of the parotid gland. His patient was a girl of sixteen, who had submitted to a plastic operation. Dr. M. first dilated the duct of stenon, and reduced the fistulous discharge as much as possible, and then resorted to the plan employed by Claude Bernard for the arrestation of the pancreatic secretion. For this purpose Claude Bernard, according to the *Revue Medicale*, injected melted tallow or butter into the pancreas by the canal of Wirsung, and, succeeding in this way in destroying the functional activity of the gland, he also demonstrated the possibility of destroying the functional activity of the parotid gland in a similar way. To utilize this principle, Dr. Molliere injected carbolized oil into the fistulous tract, and although his first effort was not successful, his second attempt, which was preceded by a dilatation of the fistulous opening, accomplished the desired object, and the wound healed rapidly of itself.— *Western Medical Reporter.*

Strict Sanitation.—Charles E. Taylor, M.D.F.T.S., in his third paper on "Tropical Therapeutics," points out as the cause of the marked change in the hygienic condition of certain of the West Indies, particularly St. Thomas, which he reverts to as the brightest example of the value of strict sanitation, quarantine

and hygiene it has ever been his lot to encounter. For years it enjoyed the unenviable notoriety of being a hotbed of yellow fever, and where cholera and other diseases stalked rampant. He is somewhat skeptical in regard to the prophylactic value of vaccination with the attenuated virus in yellow fever, and says that pure air along with its twin sister, cleanliness, may be safely put down as the mortal foes to microbes of whatever form and shape in existence, aad considers them more certain and safer prophylactics than those advocated by the bactero-maniacal school.—*Chicago Medical Times.* [Might not this theory, properly and thoroughly applied, be of much service in combating the ravaging diseases of our domesticated animals, especially hog cholera? Our own personal observations would lead us to warmly advocate its superior worth. We know that it is admitted by most authorities, so that it is not an original suggestion; but what a travesty it is on science and common sense to advocate the inoculation of a pig in the midst of a filthy sty, or a cow in a noisome stable. ED.]

INCUBATION OF INFECTIOUS DISEASES.—Vacher divides these various periods into five sections, as follows: 1st. *Shortest*—One to four days—cholera (malignant), charbon, plague, catarrh and dissecting fever. 2d. *Short*—two to six days—scarlet fever, diphtheria, dengue, idiopathic erysipelas, yellow fever, pyrmia, influenza, pertussis, glanders, farcy, grease, croup, puerperal fever. 3d. *Medium*—five to eight days—relapsing fever, vaccinia, inoculated smallpox. 4th. *Long*—ten to fifteen days—natural smallpox, varicella, measles, rothelm, typhus fever, typhoid fever, mumps, malarial fever. 5th. *Longest*—forty days or more—syphilis and hydrophobia. Smallpox ceases to be infectious in 56 days after the appearance of the eruption; modified smallpox in 35 days; chicken pox in 17 days; measles in 27 days; rothelm in 14 days; scarlet fever in 49 days; typhus fever in 21 days; typhoid in 28 days, and mumps in 21 days.—*Med. World.*

SALT.—From our familiarity with the value of salt as a condiment, and with its utility in the persevation of meat, it may readily occur to us that there are still other applications of this substance that are worthy the attentiou of physicians and sanita-

rians. The antiseptic properties of salt suggest a number of useful applications. In surgery, even in very strong solution, it would be harmless and might possibly replace the more active antiseptic in many cases. As a cleansing application to foul ulcers and wounds, salt solutions have been used from the earliest times. In cases of indolent action, with large, pale and flabby granulations, the astringent effect of the salt would doubtless prove of service, as well as in many cases of excessive mucous secretions. Another application of salt certainly merits more extensive investigation, viz: the disinfection of night-soil and other sewage. In cities, a few handfuls of salt thrown daily into the water-closets, and an occasional handful thrown into the wash-basins, would go far, we believe, toward counteracting the noxious effects of the omnipresent sewer-gas, against which sanitary efforts have so long been directed. In the country a quart or more of salt used daily in the privy vaults would serve an equally useful purpose.—*New York Medical Journal.*

EXCHANGES, ETC., RECEIVED.

HOME.—American Farmer, Country Gentleman, Prairie Farmer, Medical Record, Medical Herald, Farmers' Review, Breeders' Gazette, College and Clinical Record, American Agriculturist, Maine Farmer, Science, Home and Farm, Quarterly Journal of Veterinary Science, Turf, Field and Farm, National Live Stock Journal, Home Farm, Druggist Circular, etc.

FOREIGN.—Bulletin de L'Academie de Medecine, Clinica Veterinaria, Revue fur Thierheilkunde und Thierzucht, Veterinarian, Veterinary Journal, Gazette Medicale, Archives Veterinaires, Recueil de Medecine Veterinaire, Journal de Zootechnie, Revue d'Hygiene, Revue des Sciences Medicales, Presse Veterinarie, Revue Scientifique, etc.

BOOKS AND PAMPHLETS.—Fourth Biennial Report State Board of Agriculture of Kansas, Annual Report of Commissioner of the Fire Department of Brooklyn, Catalogue of Washington and Lee University.

JOURNALS.—Northwestern Lancet, Spirit of the Times, Western Rural, New England Homestead, Medical Times, Country Home, American Grange Bulletin, Minneapolis Tribune, Massachusetts State Agricultural Experiment Station, Chicago Medical Journal, Announcement of Veterinary Department of the University of Pennsylvania, Weekly Times, Wallace's Monthly, Photographic Times, Hotel Register, Northwestern Live Stock Journal, Empire State Agriculturist.

CORRESPONDENCE.—W. Zuill, D.V.S.; T.B. Rogers, D.V.S.; Jas. Albright, V.S.; A. W. Hoover, V.S.; W. H. Gribble, D.V.S.; C. C. Lyford, M.D., V.S.; W. Pendry, D.V.S.; D. W. Dixon, D.V.S.; W. Dimond, D.V.S.; E. Mink, V.S.; T. Parsons, D.V.S.; W. D. Critcherson, D.V.S.; J. Benner, V.S.

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As we go to press on the 20th of the month, papers for publication ought to reach us before or on that date.